SHORT REPORT

Who decides when to start preventive treatment? A questionnaire survey to compare the views of different population subgroups

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Lipid lowering drugs lower the risk of ischaemic cardiovascular events. The absolute benefit is highest in people at greatest risk of having an event in the near future, but adverse effects and costs are similar whatever the baseline risk. The decision to treat entails balancing expected benefits with expected harms,¹ but is essentially a value judgement. Treatment preferences may vary systematically between groups of people either because they have different levels of baseline risk, or because they have different values and priorities.

Current UK guidelines recommend treatment for those whose 10 year risk of coronary heart disease is at least 30%.^{2,3} Assuming a relative risk reduction of one third this is an absolute benefit of about 10% over 10 years (or 5% over five years). Very little is known about the level of coronary risk at which either doctors or patients want treatment.⁴ One small study suggested that patients and nurses would choose higher risk thresholds (larger absolute benefits) than doctors.⁵ The policy to treat a risk of 30% over 10 years is an arbitrary choice.

This study compared the absolute benefits of treatment different groups would require before starting treatment themselves.

METHODS

A questionnaire described a tablet reducing the risk of heart attack by about one third. Respondents were asked how many of 100 people similar to themselves should be saved from a heart attack for it to be worthwhile all of them taking the tablet for five years (see journal web site for a copy of the questionnaire). The number chosen is the minimum absolute benefit. Questionnaires were posted to: a random sample of 100 general practitioners on the health authority list, 35 health service managers, 204 patients of an inner city general practice, and 160 patients of a suburban practice. Questionnaires were handed to: 40 general practitioner registrars attending a course, medical and pharmaceutical advisers attending seminars, patients attending a cardiology clinic, and people attending a day centre for the homeless.

Table 1 Minimum absolute benefit required by various groups to make preventive treatment worthwhile

Group	Questionnaires posted	Number (%) returned	Incomplete response*	Valid number	Would not wish treatment	Median benefit (% saved from heart attack in 5 years)	Interquartile range	Rank sum p for difference	Mean age
Suburban patients	160	81(51)	8	71	2	30	2 to 60	0.0004†	52
Inner city patients	204	52(26)	13	37	1	50	30 to 75		50
Cardiac clinic patients			9	32		55	50 to 75	0.38†	61
Homeless			0	23		70	5 to 100	0.36†	41
General practitioners	100	43(43)	11	88	2	10	5 to 30		38
Advisors/managers	35	29(83)	5	67	4	20	10 to 50	0.04‡	38
All patients			30	163	4	50	10 to 75	<0.0001	52
Health professionals			16	155	6	10	5 to 38	(patients v professionals)	38
Male			24	170	3	25	5 to 60		47
Female			22	147	6	30	10 to 65		43
Age <36			14	113	4	20	5 to 50		
Age 36–55			12	101	4	20	5 to 50		
Age >55			20	103	1	50	10 to 75	0.0002§	
Personal history of "heart attack"									
Yes			9	27	0	70	50 to 95	<0.0001	60
No			37	290	9	20	3 to 50		44
Patients only personal history of "heart attack"									
Yes			9	25		75	50 to 95	<0.0001	61
No			21	137		50	10 to 70		50
Family history of "heart attack"									
Yes			16	110	2	50	10 to 75	0.0004	50
No			30	207	7	20	10 to 50		42
All			46	318	9	25	5 to 60		45

*Incomplete response, did not answer the question about absolute benefit. †Rank sum differences between patient groups are between that group and all other patients. ‡Rank sum difference between general practitioners and advisors/managers. §Age group differences compare over 55 with 55 years or under. One inner city practice patient did not include details of age, sex, personal or family history of heart attack.

Key points

- Lipid lowering drugs lower the risk of ischaemic cardiac events, and people at the highest risk of events gain the greatest absolute benefit from treatment. Current UK guidelines recommend treatment for people with a 10 year risk of coronary disease of at least 30%, equating to an absolute benefit of about 5% over five years, but very little is known about the level of risk at which either doctors or patients want treatment.
- Doctors and other health professionals chose smaller absolute benefits than patient groups; patients from an inner city practice chose higher benefits than patients from a suburban practice, and homeless people chose the highest absolute benefits.

RESULTS

Nine people indicated that they would not wish such treatment. The absolute benefit chosen was skewed and so medians are shown (table 1). Doctors and other health professionals chose similar absolute benefits (10% and 20%), although doctors were twice as likely to choose an absolute benefit of 10% or under. This was not changed by adjusting for age, sex, personal or family history of heart attack (AOR 1.9, 95% CI 1 to 3.8). Patients chose significantly higher benefits. Health professionals were three times more likely than patients to choose an absolute benefit of under 20% (OR 3.0, 95% CI 1.9 to 4.8, unchanged by adjustment).

Older people chose higher benefits, which was almost all explained by there being fewer professionals in those over 55 years old. People who had had a heart attack chose very high absolute benefits, which was only partly explained by there being fewer professionals in this group.

DISCUSSION

Our study did not specify the mechanism of the drug, and could apply to hypertension, lipid lowering, or some other treatment. The median absolute benefit required by doctors implies treating people at 30% risk of coronary events in five years (60% in 10 years)—much higher than that recommended guidelines. The high absolute benefits chosen by many patients would require both improbably effective drugs and extraordinarily high baseline risk, but the difference between health professionals and non-professionals is striking. Differences between groups may reflect socioeconomic status; homeless people and inner city patients may have more immediate concerns than professionals and suburban patients, viewing such preventive treatment as low priority.

Many people who would be targeted for preventive treatment might not wish it unless they were at higher risk of

Policy implications

Guidelines are likely to be very different if they incorporate the observed range of preferences.

cardiac events. We believe that patients' preferences should be elicited before treating asymptomatic conditions. The range of preferences is wide, but many decisions made on this basis will be in contrast with expert guidelines. Decision aids for preventive treatment may need to be written in a flexible style to cope with the diversity of values.

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The questionnaire used in the study is available to view on the journal web site (www.jech.com/supplemental)

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REFERENCES

- 1 **Barber N**. What constitutes good prescribing? *BMJ* 1995;**310**:923–5.
- 2 **British Cardiac Society**, British Hyperlipidaemia Association, British Hypertension Society, endorsed by the British Diabetic Association. Joint British recommendations for prevention of coronary heart disease in clinical practice. *Heart* 1998; **80** (suppl 2):S1–29.
- 3 **Department of Health**. *National Service Framework for coronary heart disease*. London: Department of Health, 2000.
- 4 **Montgomery AA**, Fahey T. How do patients' treatment preferences compare with those of clinicians? *Quality in Health Care* 2001;**10** (suppl 1):i39–43.
- 5 **Steel N**. Thresholds for taking antihypertensive drugs in different professional and lay groups: questionnaire survey. *BMJ* 2000;**320**:1446–7.